Human Health, Well-being and Sustainable Forest Management

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Workshop: „Forests and Human health: Challenges and opportunities“
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1. Why „Human health and well-being“ on the agenda of FOREST EUROPE?
2. Forest Ecosystem Services
3. Human Health, well-being and quality of life in the context of Sustainable Forest Management (SFM)
4. How to better integrate human health aspects into SFM?
5. Conclusions and recommendations
The way how we live now...
into the forest
How trees can help you find health and happiness
Dr. Qing Li
Ryukoku Medical School

FOREST BATHING
NDJ Gilbert, ND

Your Brain on NATURE
The Science of Nature’s Influence on Your Health, Happiness, and Vitality
Eva M. Selhub MD Alan C. Logan MD

Forest bathing
Trees can help you find health and happiness
Dr. Qing Li
Chairman of the Japanese Society for Forest Medicine

How nature is good for our health and happiness

Guardian Selects
California
What is ‘forest bathing’ - and can it make you healthier?

Shinrin-yoku: a form of nature therapy that originated in Japan, has finally caught on stateside - but what is this outdoor business all about?

Under a symphony of eucalyptus and cypress boughs, in the pale waning compulsory gratitude drawn reines, “Gaze” the faceless-looking young blond woman, and then passed the shakers to her left.

The Japanese art of woods bathing, known as shinrin-yoku, emphasizes the importance of connecting with nature to restore vitality and improve health.

On a damp Saturday morning last August, I joined 10 others for a shinrin-yoku session outside Ottawa, Canada, as part of a “forest bathing” workshop offered by a local wilderness resort.

First we sat in a circle on the leafy ground, each sharing a special forest bathing story or memory. Then we stood and walked among the trees, observing the earth, listening to the sounds of nature, and simply breathing deeply.

The experience left me feeling rejuvenated and with a renewed sense of appreciation for the natural world.

The Guardian
Forest ecosystem services

- Mental and physical health and well-being
- Outdoor recreation
- Tourism (nature-based tourism, ecotourism...)
- Sport and leisure activities
- Aesthetic appreciation, inspiration, culture and art
- Outdoor education
- Spiritual experience
Forest ecosystem services – indirect benefits towards healthy living environment

TREES shade buildings reducing the need for air conditioning which reduces fossil fuel consumption

TREES absorb small particulate matter from the air

LARGE, HEALTHY TREES have the greatest per tree effects at pollution removal

REduced heart attacks, strokes and asthma

Healthier people

Improved neighborhood air quality

Air pollution

TNS
Potential of forests in enhancing human health and well-being has been significantly recognised in Europe and across the globe in a new way.
Social aspects and Sustainable forest management

- SFM Definition: "the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems" (Helsinki, 1993)

- Pan-European Operational Guidelines for Sustainable Forest management (Lisboa, 1998)

- Preserving and enhancing the social and cultural dimension of sustainable forest management in Europe and also National Forest Programmes (Vienna, 2003)

The six Pan-European criteria for SFM are:

- Maintenance and appropriate enhancement of forest resources and their contribution to global carbon cycles;
- Maintenance of forest ecosystems’ health and vitality;
- Maintenance and encouragement of productive functions of forests (wood and non-wood);
- Maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems;
- Maintenance, conservation and appropriate enhancement of protective functions in forest management (notably soil and water); and
- Maintenance of other socio-economic functions and conditions.
Vision for forests in Europe

“To shape a future where all European forests are vital, productive and multifunctional. Where forests contribute effectively to sustainable development, through ensuring human well-being a healthy environment and economic development in Europe and across the globe. Where the forests’ unique potential to support a green economy, livelihoods, climate change mitigation, biodiversity conservation, enhancing water quality and combating desertification is realised to the benefit of society” (Oslo, 2011)
How to reflect human health and other social aspects into SFM?

- SFM based three pillars of sustainability covering economic, ecological and social aspects, **matching public demands for all ecosystem services** (Rametsteiner, 2009). SFM must deal with different ecosystem services as much as possible (Mc Donough et al., 2017).

- Shift of forest management paradigm towards more **multifunctional management** (Bell et.al, 2009), although multifunctional forest management and integration of social values is still a challenge (Stén at al., 2016).

- Management planning has to **consider more than one objective and include several stakeholders**.

- Forest management planning and the use of forest areas in undoubtedly a **participatory planning** problem (Kangas et.al, 2015).

- Monitoring and inventory of forest preferences.
The aim of the monitoring of societal demands is:

a. research the preferences of forest visitors for different forest settings related to human intervention and existing biodiversity (e.g. tree species composition, forest stand density, age structure, management practices),

b. to define the forest areas designated for visitors.
• Mature, **mixed forests with good visibility** where it is easy to walk and where are large-dimensioned trees (e.g. Frick et al., 2008) – to keep wide **viewpoints** without dense undergrowth.

• Tended forest are more preferred compared to a wild forest (Martens et al. 2011) due to denser vegetation in managed forests.

• **Managed forests with smaller paths or trails** may furthermore be preferred over completely natural forests (Van den Berg, A.E., Kooles, S.L., 2006).

• People **do not prefer dead or fallen trees** (e.g. Gundersen et al., 2017) unless they are informed about their values for biodiversity.

Forest preferences and shaping forests to enhance health benefits II.

- Forests should look naturally and bear **no visible traces of human activity**. Large size of the regeneration area and direct traces of cutting, such as signs of soil preparation and logging residues, have a negative impact (e.g. Karjalainen 2006; Silvennoinen et al. 2002).

- **Preference for natural regeneration** and reduced share of spruce (where dominant) and favouring broadleaved species – probably due to raising awareness on environmental issues

- **Larger greenspaces** have stronger positive impacts on well-being and cognitive performance than small parks (e.g. Akpınar et al. 2016; Tyrväinen 2014). Over-crowded green areas are not attractive.

- **Quality and diversity of opportunities** for activities and amenity services are important (Tyrväinen et al., 2007)

- Adequate **recreational infrastructure** and facilites tailored to the defined target group (e.g. path network, signs, sitting options, shelters, observation towers, etc.) combined with natural features
**What modification would be needed and what are their implications?**

- **Forest management should adapt to changing societal demands**
- **More than one objective** should be considered in forest management planning
- Multitude of demands inevitably generate **conflicts and put pressure** on forests and forest owners/managers
- **Trade-offs** between timber production and provision of other ecosystem services
- The **planning process should include several stakeholders** and decision-makers with very diverse interests
- **Special management** (incl. silvicultural treatments) would be needed
- Additional costs would be required

**Shared responsibility** between forest owners/managers and other stakeholders and **genuine collaborative practice** is key
Multistakeholder dialogue and participatory decision

Potential partners:

- Forest ownership rights must be respected!
- Compensation mechanisms, funding and incentives for the long-term provision of forest ecosystem services for social and health benefits will need to be developed and applied!
Multi-stakeholder participatory forest management as a key element for integration of Human health benefits and other social aspects.
Value added

- Health benefits of forests better **acknowledged**;
- Exploiting opportunities for **new employment** and creation of **green jobs**;
- **New types of services** and their packages, **new value chains**;
- New **income** and payments;
- New profitable **investments** enhancing the **competitiveness** of the forest sector and **diversification**;
- Enhancement of **inter-sectoral cooperation**, new partnerships;
- Increasing relevance and profile of forestry for the society.
Conclusions

1. Encouragement of public participation and inclusivity
2. Enhancement of cross-sectoral cooperation
3. Mechanisms and funding of provision of forest ecosystem services
4. Monitoring and necessary data acquisition
5. Investment in research, innovation and development of new skills
6. Better accessibility of forests
7. Public awareness raising and communication
Thank you for your attention!